

GEARTECH	CHECKLIST			No. CK8300	SHEET 1 OF 2
				Rev. A	
Heat Treatment of Carburized Gears				BY RLE	DATE 3/22/98
				CKD JRM	DATE 3/23/98
Question	Y	N	R	Comments	
Does heat treater have an in-house metallurgical laboratory?					
Does heat treater have a staff metallurgist?					
Does heat treater have a technician to prepare and analyze heat treat coupons?					
Does the laboratory conduct tests to ensure that the gears conform to specifications?					
Does the laboratory prepare reports that document the metallurgical test results?					
Are thermocouples properly maintained and checked against a calibration standard that is traceable to the National Bureau of Standards?					
Do thermocouples accurately measure the temperature of the gears?					
Is the carbon potential accurately maintained and monitored?					
Is the case carbon content tested with coupons?					
Are gears loaded in the furnace in a way that prevents sagging at the carburizing temperature?					
Are gears spaced so that teeth do not touch each other, baskets, or fixtures?					
Are fans used to vigorously circulate gas?					
Is there a uniform flow of gas in and around gears?					
Are quench tanks large enough for the gears?					
Is quenchant circulated with pumps?					
Is a minimum flow of 1 (one) gpm/lb of steel provided?					
Has quench vigor been determined by measuring H value?					
Is there a uniform flow of quenchant in and around gears?					

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Question	Y	N	R	Comments	
Do representative test coupons conform to the following:					
QP8301 Procedure for preparing representative test coupons					
QP8302 Inspection of surface hardness					
QP8303 Inspection of case depth					
QP8304 Inspection of core hardness					
QP8305 Inspection of case microstructure					
QP8306 Inspection for carbides					
QP8307 Inspection for decarburization					
QP8308 Inspection for carbon content					
QP8309 Inspection for microcracks					
QP8310 Inspection for secondary transformation products					
QP8311 Inspection for intergranular oxidation					
QP8312 Inspection for retained austenite					
QP8313 Inspection of core microstructure					
QP8314 Procedure for post carburizing cold treatment					